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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,826	10/12/2005	Peter Gutendorf	KRO-10302/36	3927

25006 7590 04/18/2006

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EXAMINER

HE, AMY

ART UNIT PAPER NUMBER

2858

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/531,826

Applicant(s)

GUTENDORF, PETER



Examiner

Amy He

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "comprising", "means" and "said" should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

1. The abstract of the disclosure is objected to because of the following:
 - (1) It contains phrases which can be implied, such as "is disclosed" (on line 5 and 9). Delete ", is disclosed" after "capacitance change" (on line 5) and after "above design" (on line 9).
 - (2) It contains legal phrase "comprising" (on line 3). Replace "comprising" with --including--.

Corrections are required. See MPEP § 608.01(b).

Drawings

2. Figures 1 and 2 are objected to because text labels are needed for reference numbers 3, 5 and 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any

Art Unit: 2858

amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 6, 7 and 11 are objected to because of the following informalities:
 - (1) In claim 6 (lines 3-4) and claim 7 (line 3), the uses of "and/or" render the claims indefinite, since it is unclear which limitation is included or excluded by the claim language. Replace "and/or" with --or--.
 - (2) In claim 11, Replace the typo "obstuction" (on line 1) with --obstruction-- and replace "diaelectric" (on line 6) with --dielectric--.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (U. S. Patent No. 6, 377, 009).

As for claim 11, Philipp discloses a capacitance sensor (10 in Figure 1; claim 8) for detection of an obstruction of a motor driven device (14) by an object or a body part (12), comprising:

a generally flat and film-like support (surface for supporting the conductive ink, or the metal foil or the support for the serpentine-laid wire, col. 4, lines 32-34);

electrode arranged on one side of the support (col. 4, lines 32-34); and

a means to measure a capacitance or a capacitance change (capacitance measurement circuit, col. 7, line 62);

wherein ambient air represents the dielectric (the air space between the body parts and the capacitive sensing plates represents a dielectric).

Still referring to claim 11, Philipp discloses using at least one capacitive obstruction sensing plate (implying that more is desired/possible) at a predetermined portion of the vehicle (col. 8, lines 28-29). Philipp does not specifically disclose a multitude of electrodes. A person of ordinary skill in the art would find it obvious at the

Art Unit: 2858

time the invention was made to modify Philipp to use a multitude of obstruction sensing plates, since more than one sensing plate is desired for improved sensitivity. And since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. See *St Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

As for claim 12, Philipp discloses a detection device, comprising:

a capacitance sensor system(10 in Figure 1) for detecting whether objects or body parts (12) are obstructing a motor (20) driven device (14), the system including a sensor, the sensor including:

a generally flat and film-like support (surface for supporting the conductive ink, or the metal foil or the support for the serpentine-laid wire, col. 4, lines 32-34);

electrode arranged on one side of the support (electrodes printed with conductive ink on a surface or serpentine-laid wires); and

a means to measure a capacitance or a capacitance change(capacitance measurement circuit, col. 7, line 62); wherein ambient air represents the dielectric (the air space between the body parts and the capacitive sensing plates represents a dielectric).

Still referring to claim 12, Philipp discloses at least one capacitive obstruction sensing plate at a predetermined portion of the vehicle (col. 8, lines 28-29). Philipp does not specifically disclose a plurality of sensors each comprising multitude of electrodes. A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Philipp to use a multitude of obstruction sensing plates for reasons as stated above in the rejection of claim 11. Moreover, It would have been obvious to

Art Unit: 2858

further modify Philipp to use a plurality of such sensors on other motor driven closure parts of the same vehicle, such as in the door, sunroof, hood or trunk lid etc., so as to prevent the pinching or trapping of a human body part or foreign object in these areas as well (col. 1, lines 32-37).

As for claim 4, Philipp discloses that an obstruction situation is detected when a selection of several sensors are responding (when several selected sensors are used in different areas, obstruction situation in these selected areas are detected when these sensors are responding).

As for claim 5-7, Philipp discloses that the sensing and control are applicable to any sort of panel closure device and other placements for the sensing electrodes are possible (col. 1, lines 32-38; col. 4, lines 8-10 and lines 26-29). Philipp does not specifically disclose that the motor driven device is a convertible top of a convertible vehicle and that the sensors are located in the area of elements that are connected with each other by hinge-like connections and that are elements of a convertible top linkage or a tensioning bow or a convertible top compartment cover or a windshield frame or an area adjacent to a window or between a sealing section or trim parts and their support. A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Philipp to incorporate the use of the capacitive closure obstruction sensor in a convertible top of a convertible vehicle and placing the sensors at the suitable locations, such as the area of elements that are connected with each other by hinge-like connections and that are elements of a convertible top linkage or a tensioning bow or a convertible top compartment cover or a windshield frame or an area adjacent

Art Unit: 2858

to a window or between a sealing section or trim parts and their support as claimed, so as to prevent the pinching or trapping of a human body part or foreign object in these desired areas of the convertible vehicle(col. 1, lines 32-38; col. 4, lines 8-10 and lines 26-29).

As for claim 8, Philipp discloses that the capacitive sensor system is interacting with a sensor system that uses measurement based on a different measuring principle (other sensors in addition to the capacitive anti-trap sensor, col. 3, lines 8-10) in order to detect an interference into the range of motion of the convertible top mechanism wherein, after an obstruction situation is recognized, the convertible top motion is controlled by a control device (38) in a safety mode, in which the convertible top motion is stopped or reversed (col. 6, lines 3-4).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (U. S. Patent No. 6, 377, 009), in view of Tartagni et al. (U. S. Patent No. 6, 191, 593).

As for claim 2, Philipp discloses the sensor as in claim 11. Philipp does not specifically disclose an automatically readjusting threshold switch. Tartagni et al. discloses an automatically readjusting threshold switch (19 in Figure 2). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Philipp to use an automatically readjusting threshold switch as taught by Tartagni et al. for placing all capacitive sensing plates in a startup condition (abstract), so as to eliminate any environmental effects.

Art Unit: 2858

6. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (U. S. Patent No. 6, 377, 009), in view of Boisvert et al. (U. S. Pub. No. 2002/0101210).

As for claims 9-10, Philipp discloses other sensors in addition to the capacitive anti-trap sensor (col. 3, lines 8-10) as in claim 8. Philipp does not specifically disclose that the sensors in addition to the capacitive anti-trap sensor is an optical sensor system, wherein a safety mode is started when a malfunction is recognized in the optical sensor system. Boisvert et al. disclose a dual detection scheme employing an optical sensor system for sensing obstructions for a movable panel (see abstract). It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Philipp to use an optical sensor system, as taught by Boisvert et al., in addition to the capacitive anti-trap sensor, for the added reliability of the obstruction detection, so that when a malfunction is recognized in either the capacitive or optical sensor system, the detection device would be in a safety mode, where the other sensor system is still operable to detect the obstruction.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bledin et al. (U. S. Pub. No. 2003/0085679) discloses a segmented capacitive sensor system for preventing the pinching or trapping of a human body part or foreign object by a power-closing panel.

Art Unit: 2858

Philipp (U. S. Pub. No. 2002/0030666) discloses a multi-electrode capacitive position sensor function as a computer pointing device.


Weber et al. (U. S. Patent No. 6, 600, 284) discloses a capacitive sensor system for detecting obstacles during the closing of a convertible top.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (571) 272-2230.

The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH 
April 10, 2006.


ANJAN DEB
PRIMARY EXAMINER